WEST Search History

DATE: Wednesday, December 17, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=OR			
L7	5712152.pn.	2	L7
L6	L5 and (lactate or (lactic adj acid))	2182	L6
L5	L4 and (ethanol or (pyruv$ adj2 $carboxylase))	2372	L5
L4	(lact$ adj2 dehydrogenas$)	5208	L4
DB=USPT; PLUR=YES; OP=OR			
L3	L2 and (lact$ adj2 dehydrogenas$)	20	L3
L2	(((435/139)!.CCLS.))	199	L2
L1	((435/135)!.CCLS.)	445	L1

END OF SEARCH HISTORY

STN Search Summary
10/068137

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FILE 'CAPLUS' ENTERED AT 14:24:32 ON 17 DEC 2003
L1 789 S YEAST AND (LACT? (2W) DEHYDROGENAS?)
L2 51 S L1 AND (ETHANOL OR (PYRUV? (2W) ?CARBOXYLAS?))
L3 38 S L2 AND 1900-2000/PY
L4 36 S L2 AND 1900-1999/PY

L3 ANSWER 6 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:220061 CAPLUS
TI Yeast strains for improved production of lactic acid
IN Porro, Danilo; Bianchi, Michele; Ranzi, Bianca Maria; Frontali, Laura; Vai, Marina; Winkler, Aaron Adrian; Alberghina, Lilia
SO PCT Int. Appl., 86 pp.

Applicants

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9914335	A1	19990325	WO 1998-EP5758	19980911	<--
	CA 2302434	AA	19990325	CA 1998-2302434	19980911	<--
	AU 9895392	A1	19990405	AU 1998-95392	19980911	<--
	AU 748462	B2	20020606			
	EP 1012298	A1	20000628	EP 1998-948950	19980911	<--
	BR 9812434	A	20000926	BR 1998-12434	19980911	<--
	JP 2001516584	T2	20011002	JP 2000-511873	19980911	
	US 6429006	B1	20020806	US 2000-508277	20000629	
	US 2003032152	A1	20030213	US 2002-68137	20020206	
PRAI	IT 1997-MI2080	A	19970912			
	WO 1998-EP5758	W	19980911			
	US 2000-508277	A1	20000629			

L3 ANSWER 7 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:765538 CAPLUS
TI Modification of metabolic pathways of Saccharomyces cerevisiae by the expression of lactate dehydrogenase and deletion of pyruvate decarboxylase genes for the lactic acid fermentation at low pH value
AU Adachi, Eri; Torigoe, Mikiko; Sugiyama, Minetaka; Nikawa, Jun-Ichi; Shimizu, Kazuyuki
SO Journal of Fermentation and Bioengineering (1998), 86(3), 284-289

L3 ANSWER 8 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:634455 CAPLUS
TI Some aspects of yeast anaerobic metabolism examined by the inhibition of pyruvate decarboxylase
AU Martin, Earl V.
SO Journal of Chemical Education (1998), 75(10), 1281-1283

L3 ANSWER 10 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1995:291460 CAPLUS
TI Production of lactic acid from engineered Saccharomyces cerevisiae cells
AU Porro, D.; Brambilla, L.; Ranzi, B. M.; Martegani, E.; Alberghina, L.
SO Mededelingen - Faculteit Landbouwkundige en Toegepaste Biologische Wetenschappen (Universiteit Gent) (1994), 59(4B), 2303-11

L3 ANSWER 12 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1994:321445 CAPLUS
TI Mixed lactic acid-alcoholic fermentation by Saccharomyces cerevisiae expressing the Lactobacillus casei L(+)-LDH
AU Dequin, Sylvie; Barre, Pierre
SO Bio/Technology (1994), 12(2), 173-7

L3 ANSWER 13 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1994:318969 CAPLUS
TI Screening of lactic acid-producing yeast and its feature on lactic acid production
AU Yoshizawa, Kiyoshi; Yanagida, Akira; Kakuta, Kiyokazu; Koizumi, Takeo
SO Nippon Jozo Kyokaishi (1994), 89(3), 229-33
LA Japanese

L3 ANSWER 15 OF 38 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1994:100557 CAPLUS
TI Yeast strains expressing a lactate dehydrogenase gene from a lactic acid bacterium and vectors useful in their preparation
IN Dequin, Sylvie; Barre, Pierre
PA Institut National de la Recherche Agronomique, Fr.
SO PCT Int. Appl., 30 pp.
LA French

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9400554	A1	19940106	WO 1993-FR618	19930622	<--
	FR 2692591	A1	19931224	FR 1992-7632	19920623	<--
	FR 2692591	B1	19950609			
	EP 651784	A1	19950510	EP 1993-913171	19930622	<--
	EP 651784	B1	20020417			
	JP 07508165	T2	19950914	JP 1993-502095	19930622	<--
	AT 216424	E	20020515	AT 1993-913171	19930622	
	ES 2174848	T3	20021116	ES 1993-913171	19930622	
	US 5712152	A	19980127	US 1994-338509	19941125	<--
PRAI	FR 1992-7632	A	19920623			
	WO 1993-FR618	W	19930622			

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:765538 CAPLUS
DN 130:80418
ED Entered STN: 08 Dec 1998
TI Modification of metabolic pathways of Saccharomyces cerevisiae by the expression of lactate dehydrogenase and deletion of pyruvate decarboxylase genes for the lactic acid fermentation at low pH value
AU Adachi, Eri; Torigoe, Mikiko; Sugiyama, Minetaka; Nikawa, Jun-Ichi; Shimizu, Kazuyuki
CS Department of Biochemical Engineering & Science, Kyushu Institute of Technology, Fukuoka, 820-8502, Japan
SO Journal of Fermentation and Bioengineering (1998), 86(3), 284-289
CODEN: JFBIEX; ISSN: 0922-338X
PB Society for Fermentation and Bioengineering, Japan
DT Journal
LA English
CC 16-9 (Fermentation and Bioindustrial Chemistry)
AB Extractive lactic acid fermn. has recently been paid a great deal of attention. The problem with such a process is, however, that only undissociated lactate can be extd. Therefore, lactic acid fermn. at low pH values is desirable. In the present study, we modified the metab. of yeast (not lactic acid producing bacteria often cultivated at pH of 6-7) by expressing the lactate dehydrogenase (LDH) gene for the prodn. of lactate at low pH values. For this purpose, the plasmid pADNS which contains the ADH1 promoter was used as a host vector, and a heterologous gene region, cDNA-LDH-A (encoding bovine lactate dehydrogenase) digested from plasmid pLDH12 was digested and ligated into the aforementioned two host vectors. The resultant plasmids were then transformed into Saccharomyces cerevisiae DS37. Using this recombinant S. cerevisiae strain, several batch and fed-batch fermns. at aerobic, microaerobic, and anaerobic conditions were conducted at several pH values (4.5-3.5). Since the recombinant S. cerevisiae produced a considerable amt. of ethanol as well as lactate (about 10 g/l), we disrupted several pyruvate decarboxylase (PDC) genes to suppress the ethanol formation. Among the PDC genes, PDC1, PDC5 and PDC6, PDC1 had the greatest effect on the cell growth and ethanol prodn. The plasmid which contg. the LDH-A structure gene was then transformed into the mutant strain lacking the PDC1 gene. Cultivation of this strain improved the lactate yield from glucose (from 0.155 to 0.20) while suppressing ethanol formation (from 0.35 to 0.20).
ST lactate fermn gene cloning Saccharomyces dehydrogenase

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1995:291460 CAPLUS
DN 122:54107
ED Entered STN: 12 Jan 1995
TI Production of lactic acid from engineered Saccharomyces cerevisiae cells
AU Porro, D.; Brambilla, L.; Ranzi, B. M.; Martegani, E.; Alberghina, L.
CS Dipartimento di Fisiologia e Biochimica Generali, Universita di Milano, Milan, 20133, Italy
SO Mededelingen - Faculteit Landbouwkundige en Toegepaste Biologische Wetenschappen (Universiteit Gent) (1994), 59(4B), 2303-11
CODEN: MFLBER; ISSN: 1373-7503
DT Journal
LA English
CC 16-5 (Fermentation and Bioindustrial Chemistry)
AB Saccharomyces cerevisiae represents one of the organisms of choice for industrial microbiol. due to its easiness of genetic and physiol.

manipulations. It is used for the prodn. of biomass, chems., ethanol as well as recombinant proteins, pharmaceutical agents and vaccines. During lactic acid fermn., there is an inhibitory effect on the metabolic activities of the growing bacteria (i.e., Lactobacillus spp.) caused by the produced acid and by the low pH value. Strategies to prevent lowering of pH are conventional operations. These processes allow the prodn. of lactate(s) and require a following purifn. of lactic acid from its salt. The cloning of a muscle bovine lactate dehydrogenase gene into S. cerevisiae cells allows the redn. of pyruvate to lactic acid. Since yeast cells can efficiently grow at low pH values (pH 3-4), prodn. of lactate(s) can be avoided.

ST lactate manuf Saccharomyces

IT Fermentation
Genetic engineering
Saccharomyces cerevisiae
(prodn. of lactic acid from engineered Saccharomyces cerevisiae)

IT 50-21-5P, Lactic acid, preparation
RL: BMF (Bioindustrial manufacture); BIOL (Biological study); PREP (Preparation)
(prodn. of lactic acid from engineered Saccharomyces cerevisiae)

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1994:321445 CAPLUS
DN 120:321445
ED Entered STN: 25 Jun 1994
TI Mixed lactic acid-alcoholic fermentation by Saccharomyces cerevisiae expressing the Lactobacillus casei L(+)-LDH
AU Dequin, Sylvie; Barre, Pierre
CS Inst. Prod. Vigne, INRA, Montpellier, F-34060, Fr.
SO Bio/Technology (1994), 12(2), 173-7
CODEN: BTCHDA; ISSN: 0733-222X
DT Journal
LA English
CC 16-5 (Fermentation and Bioindustrial Chemistry)
AB The authors describe the construction of a Saccharomyces cerevisiae strain expressing the gene encoding the L(+)-lactate dehydrogenase [L(+)-LDH] from Lactobacillus casei. The recombinant strain is able to perform a mixed lactic acid-alc. fermn. Yeast cells expressing the L(+)-LDH gene from the yeast alc. dehydrogenase (ADH1) promoter on a multicopy plasmid simultaneously convert glucose to both ethanol and lactate, with up to 20% of the glucose transformed into L(+)-lactate. Such strains may be used in every field where both biol. acidification and alc. fermn. are required.
ST lactate alc fermn Saccharomyces Lactobacillus gene; lactate dehydrogenase gene Lactobacillus Saccharomyces fermn

L5 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1994:318969 CAPLUS
DN 120:318969
ED Entered STN: 25 Jun 1994
TI Screening of lactic acid-producing yeast and its feature on lactic acid production
AU Yoshizawa, Kiyoshi; Yanagida, Akira; Kakuta, Kiyokazu; Koizumi, Takeo
CS Fac. Brew. Ferment. Technol., Tokyo Univ. Agric., Tokyo, 156, Japan
SO Nippon Jozo Kyokaishi (1994), 89(3), 229-33
CODEN: NJKYES; ISSN: 0914-7314
DT Journal
LA Japanese

CC 10-1 (Microbial, Algal, and Fungal Biochemistry)
Section cross-reference(s): 17

AB Among 2500 strains of yeasts tested, a strain producing a large amt. of lactic acid together with EtOH was screened and was identified as Kluyveromyces thermotolerans AN 109. This strain showed strong activity of lactate dehydrogenase, which was considered to be one of the main causes of high lactic acid prodn., when it was cultured statically. But in aerobically grown cells, both lactate dehydrogenase activity and lactic acid prodn. decreased significantly. The yeast grown aerobically in media contg. phenethyl alc. showed high prodn. of both EtOH and lactic acid, together with strong activities of the related enzymes such as lactate dehydrogenase, alc. dehydrogenase, and pyruvate decarboxylase.